

RULE 67.9 - AEROSPACE COATING OPERATIONS

WORKSHOP REPORT

A workshop notice was mailed to all companies conducting aerospace coating operations in San Diego County. Notices were also mailed to all Chambers of Commerce in San Diego County, all Economic Development Corporations, the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and other interested parties.

The workshop was held on June 3, 1993, and was attended by 39 persons. Written comments were also received. The workshop comments and District responses are as follows:

WORKSHOP COMMENT:

Preservative oils and compounds were removed from the exemption in Subsection (b)(3), but the definition of this term remains in Section (c). This definition should be deleted.

DISTRICT RESPONSE:

The District disagrees. Preservative oils and compounds are still referred to in Subsection (c)(5), therefore the definition for these materials should remain in the rule.

WORKSHOP COMMENT:

Would the proposed exclusion of preservative oils and compounds from the definition of aerospace coatings apply also to coatings used on metal parts and products ?

DISTRICT RESPONSE:

No. However, Rule 67.3, Metal Parts and Products Coating Operations, will be revised in the near future to correct deficiencies identified by EPA. During this revision, the District also intends to address this issue. In the interim, the District will exclude these materials from regulation under Rule 67.3 by policy.

WORKSHOP COMMENT:

Rule 67.9 should exempt coating materials with less than 20 grams of VOC per liter from all usage recordkeeping requirements.

DISTRICT RESPONSE:

The District agrees. The definition of aerospace coatings has been modified to reflect this.

WORKSHOP COMMENT:

Are temporary protective materials that form waxy films and used in applications similar to those for greases considered aerospace coatings?

DISTRICT RESPONSE:

No. The definition of aerospace coatings was revised to clarify that wax-like materials are not considered coatings.

WORKSHOP COMMENT:

Would a mold release agent containing solids be considered an aerospace coating?

DISTRICT RESPONSE:

Information obtained from Material Safety Data Sheets (MSDS) showed that some of these materials contain solids, including resins, which form a protective coating on the mold's surface. Such material is considered an aerospace coating. Subsection (c)(5) was revised to clarify that only those form (mold) release agents that contain no solids are considered not to be aerospace coatings.

WORKSHOP COMMENT:

Why is the definition of "stationary source" revised in the proposed rule?

DISTRICT RESPONSE:

The definition of "stationary source" was revised to make it consistent with the corresponding definition in the New Source Review rules which are currently being amended.

WORKSHOP COMMENT:

Sometimes a coating containing volatile organic compounds and exempt compounds, or water, has a higher VOC content if calculated according to the formula provided in (c)(53) than is allowed by Rule 67.9. However, such coatings often have lower overall VOC emissions. The reason for this phenomenon is that if a material contains a small amount of solids, and water and exempt compounds are excluded from the calculations, the VOC content becomes artificially high, and does not reflect the "true" VOC content.

DISTRICT RESPONSE:

The District is aware of this problem. The present calculation method of the VOC content of water-based materials seems to be mathematically invalid when applied to materials which contain less than 10% solids by weight. The VOC content of such materials should be calculated per total volume of material, including water. However, the District has not yet received EPA concurrence with this approach. The District previously provided the appropriate technical documentation to EPA Region IX and the EPA Office of Air Planning and Standards (OAQPS) regarding a similar problem with water-based stains in District Rule 67.11. The District suggested allowing the calculation of materials with lower than 10% content of solids, be based on the total volume of material. However, no final EPA decision has yet been made.

The aerospace industry should also contact the EPA's Office of Air Planning and Standards and to raise this concern with them. In the interim, the District will proceed with the current methods of VOC content calculation.

WORKSHOP COMMENT:

The VOC content of a water-based adhesive bonding primer calculated according to the rule requirements, exceeds the rule limit. However, it can be demonstrated that the amount of emissions from this material is equal to or lower than from solvent-based compliant materials. Rule 67.9 should provide for the demonstration and use of such materials.

DISTRICT RESPONSE:

District Rule 67.1 already provides for such a demonstration. It would effectively be an alternative emission control strategy, which must comply with Rule 67.1 - Alternative Emission Control Plan (AECF). In order to have an approvable AECF, Rule 67.1 requires that emission reductions be at least 20% below the level allowed by Rule 67.9.

A better approach to solving this problem would be to calculate the VOC content of water-based materials containing low amounts of solids using "the total volume of material" basis, as discussed in the District's response to the previous comment. However, as noted above, this approach has not been yet approved by EPA.

WORKSHOP COMMENT:

Do VOC calculations according to proposed formulas in (c)(53) and (c)(54) represent new procedures, or simply reflect existing procedures?

DISTRICT RESPONSE:

The formulas in Subsections (c)(53) and (c)(54) reflect existing procedures and are included for clarification purposes.

WORKSHOP COMMENT:

Sometimes material safety data sheets (MSDS) or material specifications received from coating manufacturers provide the VOC content of a coating. However, often it cannot be determined whether water or exempt compounds were included in the specified VOC content.

DISTRICT RESPONSE:

Typically, the information on the composition of a coating material and the way the VOC content was calculated can be obtained from the manufacturer of this material. Very often, this information is also specified on the label of the coating container. Also, if the material contains an exempt compound, its content is specified in the MSDS since most exempt compounds used in coatings are also considered hazardous materials and must be listed on the MSDS.

WORKSHOP COMMENT:

The VOC content calculated according to the proposed formula in (c) (53) may not be of any use for calculating daily or monthly emissions.

DISTRICT RESPONSE:

This is correct. In order to calculate VOC emissions, one must use the VOC content per liter (or gallon) of material (including water, and exempt compounds), since the amount of emissions from a coating is proportional to the amount of material used. The VOC content limits calculated on "less water, less exempt compounds" basis were mandated by EPA policy in the 1970's. The purpose of this policy was to prevent people from diluting paints with water and/or exempt compounds, and then using double the amount of paint in order to achieve a required coverage, effectively circumventing the rules. The VOC content limits calculated according to the formula in Subsection(c)(53) and presented in the table of Section (d) are used for compliance purposes only. This limit cannot be used for calculating the amount of VOC emitted from coatings without additional information on the content of water or exempt compounds in the coating.

WORKSHOP COMMENT:

Rule 67.9 should require that the manufacturer label the VOC content on the material container.

DISTRICT RESPONSE:

This issue has been discussed during previous workshops on amendments to Rule 67.9. The District believes that such requirements would improve enforceability of the rule. However, since other air pollution control agencies in Southern California do not require coating containers to be labeled in their aerospace coating rules, it will likely be difficult to implement such provision at this time.

WORKSHOP COMMENT:

A maskant for chemical milling with a VOC content below 250 grams per liter is being successfully used. However, some high-VOC content maskant is still needed to use around threaded connections.

DISTRICT RESPONSE:

Subsection (b) (1) (iii) provides an exemption for non-compliant coatings that are used in volumes of less than 20 gallons per year. This exemption can be used for applying small amounts of non-compliant maskants.

WORKSHOP COMMENT:

If a facility is already using a low VOC content maskant, can it claim emission credits since the compliance date with this limit is extended by one year?

DISTRICT RESPONSE:

Yes, it can. Rule 26.2 provides that emission reductions which are achieved before they are required by any existing District's rule, can be banked. However, the banked emissions would be valid only until the date the new, more stringent limit in the existing rule goes into effect.

WORKSHOP COMMENT:

If a facility fabricates 'prepreg' parts from materials such as epoxy resins, are these operations and materials subject to Rule 67.9?

DISTRICT RESPONSE:

No, they are not. Rule 67.9 applies to aerospace coating operations. Fabrication of "prepreg" parts from epoxy resins is not a coating operation.

WORKSHOP COMMENT:

A material for leak detection is used which has a VOC content greater than 420 grams per liter. Is the use of this material in violation of Rule 67.9?

DISTRICT RESPONSE:

If this material does not contain solids, and is not used as an aerospace coatings, as defined, or as a clean-up solvent, then it is not subject to Rule 67.9.

WORKSHOP COMMENT:

The District should include in the rule the definition for "coating" and specify in this definition that a material which contains no solids is not a coating.

DISTRICT RESPONSE:

This is implicitly included in the latest revision of the definition of "aerospace coatings". Considering the complex nature of many materials used in aerospace coating operations, such as lubricants, adhesives, etc. which are not coatings, including the definition of coating in Rule 67.9 may be counterproductive.

WORKSHOP COMMENT:

Why is the District proposing to delete the demonstration of 65 percent transfer efficiency from the provision for alternative coating application methods in Subsection (d)(2)?

DISTRICT RESPONSE:

This clause is being deleted because of the continuing inability of regulatory agencies and affected industry to develop a test method, approvable by EPA, for the quantitative determination of transfer efficiency. The measurement of transfer efficiency of paint application equipment is affected by many variables. The development of a standard test method presents almost insurmountable difficulties. However, a comparison of new types of spray equipment with already approved higher transfer efficiency equipment, such as high-volume, low-pressure (HVLP), is possible. The test method which was recently approved by EPA for this purpose is the SCAQMD "Spray Equipment Transfer Efficiency Test Procedure for Equipment User".

Subsection (d)(2)(vii) requires that any coating application methods, other than those specified in Subsection (d)(2)(i) through (d)(2)(vi), be tested for equivalence using this method.

WORKSHOP COMMENT:

Will all such demonstrations of equivalent transfer efficiency under this subsection need to be approved by ARB and EPA?

DISTRICT RESPONSE:

Since the test used for the determination of equivalent transfer efficiency (SCAQMD "Spray Equipment Transfer Efficiency Test Procedure for Equipment User") has been recently approved by EPA, no additional ARB and EPA approvals will be required if that method is used. The rule has been revised to reflect this.

WORKSHOP COMMENT:

The specification of a liquid coating pressure of not more than 50 psig should be deleted from the definition of HVLP coating application equipment.

DISTRICT RESPONSE:

The District agrees. Recent information presented to the District by some equipment manufacturers has shown that the broad variations in liquid pressure do not have a significant effect on the transfer efficiency of coating application equipment. Therefore, the rule has been revised to delete the liquid pressure requirement from the definition of HVLP equipment.

WORKSHOP COMMENT:

Proposed Subsection (d)(5) will allow for more flexibility to meet application equipment cleaning requirements. However, the options in this subsection seem to have some overlap and redundancy. Can this section be simplified?

DISTRICT RESPONSE:

The District agrees that there is some overlap in different provisions of Subsection (d)(5). However, this overlap was included intentionally to provide the necessary clarification of the rule's intent which was to minimize emissions from coating equipment cleaning operations, and not to require every facility to use enclosed gun washers.

WORKSHOP COMMENT:

The District should consider requiring the use of low vapor pressure materials for application equipment cleaning, even for use in enclosed systems, as does the South Coast AQMD. When conventional solvents like acetone are used, there is virtually no opportunity for solvent reclamation because acetone evaporates very quickly.

DISTRICT RESPONSE:

The District will consider this proposal in the next round of the rule's amendments, when more information will become available on the performance of such materials in enclosed cleaning devices. In addition, EPA is presently working on a Control Technique Guideline (CTG) for aerospace coating operations. The current revision to Rule 67.9 must be adopted by the end of

1993 to avoid federal sanctions. In the future, the District will have one year after EPA promulgation of the CTG to make Rule 67.9 consistent with the CTG. At that time this issue will be considered for inclusion in the rule. This proposal should also be made to EPA for inclusion in the CTG.

WORKSHOP COMMENT:

The requirements for 90 percent capture efficiency and 95 percent control device efficiency in Section (e) should be combined to be 85 percent overall efficiency, to provide for greater flexibility to meet the same requirements.

DISTRICT RESPONSE:

The District agrees. Rule 67.9 has been revised to reflect this.

WORKSHOP COMMENT:

Is there currently a capture efficiency test method approved by the EPA?

DISTRICT RESPONSE:

No, there is not. EPA has withdrawn its approved test procedure for measuring capture efficiency because of numerous negative comments from industry on the test's complexity and cost. A revised procedure will be published by EPA in the near future.

WORKSHOP COMMENT:

In what ways can a facility reduce its recordkeeping burden with monthly recordkeeping? To track its monthly usage adequately, a facility may still have to keep daily records.

DISTRICT RESPONSE:

Daily records are not always necessary for determining monthly usage of volatile organic compounds. For example, the usage of cleaning materials can be recorded at the dispensing stations which could keep records only on days when the materials were dispensed or dispensers are refilled. The removal of daily recordkeeping requirements decreases the amount of paperwork which must be done to demonstrate compliance. In some cases, however, a facility may decide it needs to track daily usage of coatings in order to be able to compile monthly records.

WORKSHOP COMMENT:

Does the amended rule require monthly recordkeeping on calendar month basis or on "rolling" month basis?

DISTRICT RESPONSE:

The intent of the rule is to require recordkeeping of material usage based on a calendar month. The rule has been revised to reflect this.

WORKSHOP COMMENT:

Some permits have conditions requiring daily records to enforce daily emission limits. How will the proposed monthly recordkeeping requirements for Rule 67.9 affect such permits?

DISTRICT RESPONSE:

If permit conditions reflect current Rule 67.9 daily recordkeeping requirements, they will be modified accordingly. However, if a permit unit is subject to New Source Review, the condition to keep daily records will remain.

WORKSHOP COMMENT:

It is estimated that monthly recordkeeping will reduce our facility data entry time by a factor of 80 percent or more.

DISTRICT RESPONSE:

The District is optimistic that other facilities will realize time or money savings from the change to monthly records.

WORKSHOP COMMENT:

The current compliance date for the lower VOC limits for maskants is July 1, 1993. When is the proposed rule expected to be adopted by the District Board?

DISTRICT RESPONSE:

The rule is expected to be ready for public hearing on September 21, 1993. In the meantime, the District will apply to the Hearing Board for a class variance on behalf of all facilities affected by Subsections (d)(1)(i) through (d)(1)(iv).

PRE-WORKSHOP COMMENT:

The VOC limits for maskants should not be extended for another year in the proposed amended rule. There are water-based maskants which do not contain any perchloroethylene and which are being successfully used by aerospace industry. In addition to reducing VOC emissions, such maskants eliminate emissions of perchloroethylene which is identified as a hazardous air contaminant by the 1990 Amendments to the Federal Clean Air Act.

DISTRICT RESPONSE:

During the past year the District has held a number of meetings with affected companies to discuss this issue. The information presented in these meeting showed that water-based maskants in some cases do not provide necessary adhesive properties. This issue is complicated by the fact that EPA has proposed to define perchloroethylene as a non-photochemically reactive compound but has not yet taken final action to do so. Therefore, the District has decided to extend the maskant compliance date by one year. An understanding was also reached with the affected parties that during this year companies using maskants for chemical milling and/or chemical processing will aggressively work with maskant manufacturers to investigate all possibilities for

process modifications to allow use of water-based maskants. If a promising water-based maskant has not been found by July 1, 1994, the District will consider whether additional amendments to Rule 67.9 to provide are necessary to provide some additional time for affected facilities to install add-on control devices for reducing emissions to required levels.

WRITTEN COMMENT:

It is requested that the revised definition of "stationary source", as it appears in Rule 67.9, be incorporated in all relevant rules.

DISTRICT RESPONSE:

The District is planning to revise Rule 2, Definitions, to update all general definitions that apply to all current District rules. At that time, definitions such as that for stationary sources will be considered.

WRITTEN COMMENT:

References to Subsections (f)(1) and (f)(2) in Section (b) are confusing. It is not clear what information related to Section (b) exemption needs to be recorded.

DISTRICT RESPONSE:

The District agrees. Section (b) has been clarified.

WRITTEN COMMENT:

should be changed to list the complete scientific names for each perfluorocarbons concerned.

DISTRICT RESPONSE:

Exempt compounds including perfluorocarbons are listed in Rule 67.9 in compliance with the current EPA policy. Many compounds on this list are still undergoing toxicological tests, and therefore have not yet been approved by EPA.

WRITTEN COMMENT:

Change the definition of HVLP to make it consistent with definitions in the SCAQMD rules and in RACT/BARCT Guidance for other coating processes.

DISTRICT RESPONSE:

The definition of HVLP has been changed to be consistent with RACT/BARCT documents and with the SCAQMD Rule 1124.

ARB COMMENT:

It is recommended that the District change Section (f)(1)(iii) from requiring monthly records to requiring daily records, since most inspections are done on a per day basis.

DISTRICT RESPONSE:

The District disagrees. Rule 67.9 does not impose any limits on the usage of complying aerospace coating materials, therefore daily usage of these materials are not relevant to the rule enforcement, regardless if inspections are conducted on "a per day basis" or not. Daily usage records are still required for those permit units which are subject to New Source Review, and therefore have daily emission limitations. In addition, sources using add-on control equipment are required to keep daily records of coatings which have VOC content higher than the rule allows. These daily records can be used to calculate daily emissions for units which are connected to an emission control device.

EPA COMMENT:

Rule 67.9 must require daily recordkeeping for non-compliant coatings when emission control equipment is used by a source to comply with the rule.

DISTRICT RESPONSE:

Subsection (f)(3) of the amended rule requires that a source keep daily records of non-compliant coatings if the source chooses to comply with the rule by installing emission control equipment.

EPA COMMENT:

Subsection (g) (3) must reference EPA Test Method 25 for measurement of VOC emissions while determining the efficiency of a control device.

DISTRICT RESPONSE:

The District agrees. Subsection (g)(3) was revised to reference EPA Test Method 25.

EPA COMMENT:

ASTM Standard Test Method D 4457-85 is not a satisfactory method for measuring perchloroethylene content in maskants. EPA recommends use of the SCAQMD Test Method 310-91.

DISTRICT RESPONSE:

The District agrees. The rule has been revised to incorporate the SCAQMD Test Method 310-91 "Determination of Perchloroethylene".

EPA COMMENT:

EPA is scheduled to publish a draft Control Technique Guideline (CTG) for aerospace coating operations in November of this year. When the CTG is published, EPA will be evaluating aerospace rules against the CTG requirements and districts will have one year to revise their applicable rules in accordance with those requirements.

DISTRICT RESPONSE:

The District will propose revisions to Rule 67.9, as necessary, to ensure that the rule is not inconsistent with the CTG requirements.